AMENDMENTS

This listing of claims will replace all prior versions, and listings, of claims in the application:

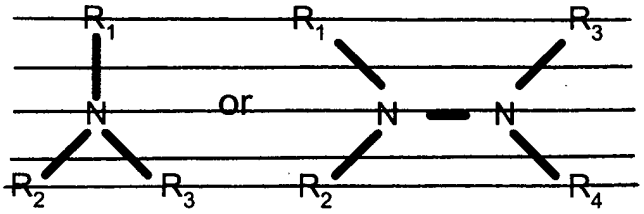
Claim 1 (previously presented): A method for forming a compound semiconductor layer, comprising the step of crystal-growing a group III-V compound semiconductor layer containing at least nitrogen and arsenic as group V elements on a single crystal substrate,

wherein the step of crystal-growing the compound semiconductor layer includes the step of supplying an aluminum source material to the single crystal substrate concurrently with a nitrogen source material such that the source materials decompose on the surface of the substrate.

Claim 2 (currently amended): A method for forming a compound semiconductor layer according to claim 1, wherein an aluminum-mix crystal ratio in a group III element in the compound semiconductor layer is 0.02 or higher and 0.20 or lower.

Claim 3 (original): A method for forming a compound semiconductor layer according to claim 1, wherein the step of crystal-growing the compound semiconductor layer is performed at a temperature of the single crystal substrate in the range of 500°C or higher and 750°C or lower.

Claim 4 (currently amended): A method for forming a compound semiconductor layer according to claim 1, wherein the nitrogen source material is NH_3 ~~contains~~



~~where R_1, R_2, R_3 and R_4 are hydrogen or a lower alkyl group~~.

Claim 5 (original): A method for forming a compound semiconductor layer according to claim 1, wherein more than 0% and less than 50% of the crystal growth surface of the compound semiconductor layer is covered with group V atoms.

Claim 6 (original): A method for forming a compound semiconductor layer according to claim 1, further comprising the step of crystal-growing a layer formed of $Al_hGa_iIn_{1-h-i}As_jP_{1-j}$ ($h \geq 0$, $i>0$, $j \geq 0$) on the single crystal substrate, wherein the step of crystal-growing the compound semiconductor layer and the step of growing the crystal formed of $Al_hGa_iIn_{1-h-i}As_jP_{1-j}$ are performed at the same temperature.

Claim 7 (original): A method for forming a compound semiconductor layer according to claim 6, wherein the step of crystal-growing the compound semiconductor layer is performed after the step of crystal-growing the layer formed of $Al_hGa_iIn_{1-h-i}As_jP_{1-j}$.

Claim 8 (original): A method for forming a compound semiconductor layer according to claim 6, wherein the step of crystal-growing the compound semiconductor layer is performed before the step of crystal-growing the layer formed of $Al_hGa_iIn_{1-h-i}As_jP_{1-j}$.

Claim 9 (original): A method for forming a compound semiconductor layer according to claim 1, wherein the compound semiconductor layer further contains indium.

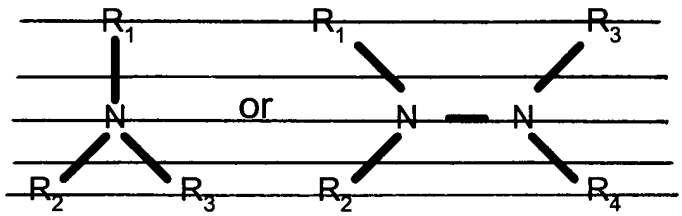
Claim 10 (previously presented): A method for forming a compound semiconductor layer, comprising the step of crystal-growing a group III-V compound semiconductor layer containing at least nitrogen and arsenic as group V elements on a single crystal substrate,

wherein the step of crystal- growing the compound semiconductor layer includes the step of supplying a nitrogen source material to the single crystal substrate so that the nitrogen source material interacts with aluminum at least on a crystal growth surface of the compound semiconductor layer.

Claim 11 (currently amended): A method for forming a compound semiconductor layer according to claim 10, wherein an aluminum-mix crystal ratio in a group III element in the compound semiconductor layer is 0.02 or higher and 0.20 or lower.

Claim 12 (original): A method for forming a compound semiconductor layer according to claim 10, wherein the step of crystal-growing the compound semiconductor layer is performed at a temperature of the single crystal substrate in the range of 500°C or higher and 750°C or lower.

Claim 13 (currently amended): A method for forming a compound semiconductor layer according to claim 10, wherein the nitrogen source material is NH_3 ~~contains~~



~~where R_1, R_2, R_3 and R_4 are hydrogen or a lower alkyl group~~.

Claim 14 (original): A method for forming a compound semiconductor layer according to claim 10, wherein more than 0% and less than 50% of the crystal growth surface of the compound semiconductor layer is covered with group V atoms.

Claim 15 (original): A method for forming a compound semiconductor layer according to claim 10, further comprising the step of crystal-growing a layer formed of $Al_hGa_iIn_{1-h-i}As_jP_{1-j}$ ($h \geq 0$, $i>0$, $j \geq 0$) on the single crystal substrate, wherein the step of crystal-growing the compound semiconductor layer and the step of growing the crystal formed of $Al_hGa_iIn_{1-h-i}As_jP_{1-j}$ are performed at the same temperature.

Claim 16 (original): A method for forming a compound semiconductor layer according to claim 15, wherein the step of crystal-growing the compound semiconductor layer is performed after the step of crystal-growing the layer formed of $Al_hGa_iIn_{1-h-i}As_jP_{1-j}$.

Claim 17 (original): A method for forming a compound semiconductor layer according to claim 15, wherein the step of crystal-growing the compound semiconductor layer is performed before the step of crystal-growing the layer formed of $Al_hGa_iIn_{1-h-i}As_jP_{1-j}$.

Claim 18 (original): A method for forming a compound semiconductor layer according to claim 10, wherein the compound semiconductor layer further contains Indium.

Claim 19 (previously presented): A method for forming a compound semiconductor layer, comprising the step of crystal-growing a group III-V compound semiconductor layer containing at least nitrogen and arsenic as group V elements on a single crystal substrate,

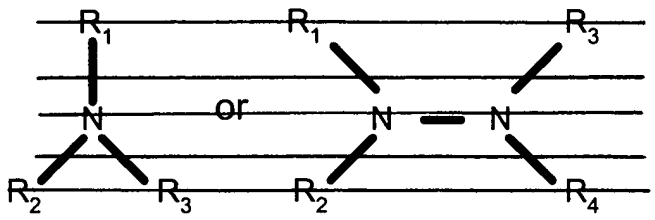
wherein the step of crystal-growing the compound semiconductor layer includes the step of supplying a nitrogen source material to a crystal surface of the compound semiconductor layer in a state where the group III atoms containing aluminum are exposed to the crystal surface such that the nitrogen source material decomposes on the surface of the substrate.

Claim 20 (currently amended): A method for forming a compound semiconductor layer according to claim 19, wherein an aluminum-mix crystal ratio in a group III element in the compound semiconductor layer is 0.02 or higher and 0.20 or lower.

Claim 21 (original): A method for forming a compound semiconductor layer according to claim 19, wherein the step of crystal- growing the compound semiconductor layer is performed at a temperature of the single-crystal substrate in the range of 500°C or higher and 750°C or lower.

Claim 22 (currently amended): A method for forming a compound semiconductor layer according to claim 19,

wherein the nitrogen source material is NH_3 ~~contains~~



~~where R_1, R_2, R_3 and R_4 are hydrogen or a lower alkyl group~~.

Claim 23 (original): A method for forming a compound semiconductor layer according to claim 19, wherein more than 0% and less than 50% of the crystal growth surface of the compound semiconductor layer is covered with group V atoms.

Claim 24 (original): A method for forming a compound semiconductor layer according to claim 19, wherein the step of crystal-growing the compound semiconductor layer further includes the step of supplying a group III source material containing aluminum and the step of supplying an arsenic source material, wherein a process sequentially including the step of supplying the group III source material, the step of supplying the nitrogen source material, and the step of supplying the arsenic source material is performed at least once.

Claim 25 (original): A method for forming a compound semiconductor layer according to claim 24, wherein the single crystal substrate has a {100} plane as a principal plane.

Claim 26 (original): A method for forming a compound semiconductor layer according to claim 19, further comprising the step of crystal-growing a layer formed of $Al_hGa_iIn_{1-h-i}As_jP_{1-j}$ ($h \geq 0$, $i>0$, $j \geq 0$) on the single crystal substrate, wherein the step of crystal-growing the compound semiconductor layer and the step of growing the crystal formed of $Al_hGa_iIn_{1-h-i}As_jP_{1-j}$ are performed at the same temperature.

Claim 27 (original): A method for forming a compound semiconductor layer according to claim 26, wherein the step of crystal-growing the compound semiconductor layer is performed after the step of crystal-growing the layer formed of $Al_hGa_iIn_{1-h-i}As_jP_{1-j}$.

Claim 28 (original): A method for forming a compound semiconductor layer according to claim 26, wherein the step of crystal-growing the compound semiconductor layer is performed before the step of crystal-growing the layer formed of $Al_hGa_iIn_{1-h-i}As_jP_{1-j}$.

Claim 29 (original): A method for forming a compound semiconductor layer according to claim 19, wherein the compound semiconductor layer further contains indium.

Claim 30-31 (cancelled)

Claim 32 (currently amended): A compound semiconductor apparatus, comprising at least one group III-V compound semiconductor layer containing at least aluminum as a group III element and containing at least nitrogen and arsenic as group V elements; and

wherein the compound semiconductor apparatus is a light emitting device including at least a light emitting layer, and the light emitting layer includes the compound semiconductor layer; and

wherein the light emitting layer is formed of $Al_xGa_yIn_{1-x-y}[[N_5]]\ \underline{N_z}As_{1-z}$ ($0 < x, y, z < 1$), wherein an A1-mix crystal ratio x in the light emitting layer is 0.02 or higher and 0.20 or lower.

Claim 33 (previously presented); A compound semiconductor apparatus according to claim 32, wherein the light emitting device further includes a cladding layer, a guide layer and/or a barrier layer formed of $A1_hGa_iIn_{1-h-i}As_jP_{1-j}$ ($h \geq 0, i > 0, j \geq 0$).